Sandra L. Wagner
Director -
Federal Regulatory

SBC Communications Inc.
1401 I Street, N.W.
Suite 1100
Washington, D.C. 20005
Phone 202 326-8860

April 16, 1996

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Mr. Caton:

The attached is an article authored by Tom Makarewicz published in *Public Utilities Fortnightly*. Last year Tom and I discussed the information contained in Tom's study with the FCC staff listed below. Southwestern Bell also attached the article to its comments in CC Docket No. 96-45, In the Matter of Federal-State Joint Board on Universal Service.

Peyton Wynns
Alexander Belinfante
Larry Povich
Deborah Dupont
Mark Nadel
Jonathan Reel
Doug Slotten
George Johnson
Rafi Mohammed

Please feel free to contact me if you have any questions.

Sandra L. Wagner

Attachment

Reprinted from
PUBLIC UTILITIES FORTNIGHTLY
Vienna, VA

EFFICIENT TELECOM PRICING:

Who Stands to Benefit?

[redacted]ikarewicz

NEW LAWS MAY LIFT MARKET BARRIERS, BUT CONSUMERS WILL CONTINUE TO LOSE OUT UNTIL REGULATORS END INDISCRIMINATE SUPPORT THROUGH ACCESS CHARGES.

Economists often seem enamored of economic efficiency, honoring its merits while decrying the lost benefits of inefficient outcomes. But really . . . what's the harm in a little inefficiency? Well, the harm may be more real than we recognize. Take, for example, the notably inefficient pricing structure for access to the local telephone network The price of basic local telephone service is kept artificially low, supported by a complex web of mandated subsidies, including: 1) revenues from artificially inflated long-distance prices, 2) allocations between classes of customers (*e.g.*, from business to residential), and 3) geographic rate averaging (*e.g.*, high-density urban areas to low-density rural). This pricing system arose before competition—to accomplish the goal of ubiquitous, reasonably priced telephone service. However, universal telephone service can now be achieved without mandated indiscriminate subsidies.

The Access Charge Subsidy

Telecommunications pricing relies intentionally on extensive interservice support to maintain a local exchange network available universally at reasonable rates. But the effort is inefficient.

For example, the pricing system recovers a majority of costs not from users who seek access to the telephone network, but from interexchange carriers (IXCs). The IXCs pay access charges to local exchange telephone carriers (LECs) for the use of the local network; these costs then fall ultimately upon long-distance callers. However, the LEC incurs the same cost to provide customer access to the telephone network whether the customer places a thousand or zero calls. The resulting cross-subsidy was mandated in a near-monopoly environment to keep local rates as inexpensive as possible, thereby encouraging universal telephone service. In other words, consumers, *regardless of need,* pay artificially low local rates at the expense of, among other things, artificially high interstate toll rates.

Economic estimates indicate that the price of basic local service exerts little influence over the customer's decision to buy or retain the service (The price elasticity of demand for local service is extremely low). At the same time, however, the unit price of interstate long-distance greatly influences the demand. Consequently, the toll-to-local subsidy begets losses in efficiency in the billions of dollars[1]. Existing subsidies "also create a pattern of subsidization that does not consistently promote universal service or equitable pricing."[2] The web of interservice subsidies was once sustainable. Today, however, to no one's surprise, the subsidy-laden margins in LEC prices for local access (together with advancements in technology and regulatory sanctions) have attracted significant competition, threatening the source of the universal service subsidy.

[1]J. Hausman, T. Tardiff, A. Belinfante, "The Effects of the Breakup of AT&T on Telephone Penetration in the United States," 83 *American Economic Review* 178 (1993), p. 183.

[2]D. Kaserman and J. Mayo, "Cross Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing," 11 *Yale Journal on Regulation* 119 (1994), p. 143.

In the mid-1980s, to correct some of the inefficiency in customer-access pricing, the Federal Communications Commission (FCC) implemented and gradually increased the federal subscriber line charge (SLC), a flat-rate monthly federal charge collected from all end users. The SLC recovers a portion of the interstate nontraffic-sensitive costs of accessing the telephone network (*i.e.*, cost of loop facilities from the LEC's wire center to the customer premises). Thus, the SLC shifts recovery for customer access from the IXCs to the end user. Phase-in of the federal SLC directly reduced LEC interstate access charges, specifically the carrier common-line charge.

At the time, concern developed that the SLC would cause residential customers to disconnect their phone service altogether. Despite strong evidence to the contrary, congressional anxiety mounted to the point that the FCC halted its SLC implementation plan, capping the monthly charge at $3.50 for residential and single-line business customers, and at $6 for multi-line business customers.

Fears of a network exodus proved unfounded. In fact, telephone subscribership actually rose from 91.6 to 93.1 percent between 1984 (when the SLC began) to 1989 (when it was capped). This outcome corroborates econometric estimates indicating that the price elasticity of demand for local service is extremely small. The FCC's assessment of the SLC on end users aligned a portion of customer-access costs with those demanding service, while bringing no harm to telephone penetration levels.

Trimming Interstate Costs

To set the stage for efficient competition, a prudent path would complete the process of fully recovering the interstate portion of traffic-insensitive loop costs via the SLC, and recover fixed interstate *switching* costs in a similar manner. Full recovery of the interstate portion of nonusage-sensitive loop costs would require a average monthly SLC of approximately $5.85 per line (based on Southwestern Bell's 1994 loop costs, which closely reflect the average for the Bell companies). The increase (up $2.35 from the current charge of $3.50) could be phased-in over, say, three years to ease the transition. With the multi-line SLC already capped at $6.00, no increase is needed to fully recover fixed loop costs for multi-line business customers.

In addition to costs associated with the local loop, a portion of the central office switch must be dedicated exclusively to each and every telephone line. The cost of this switch connection does not vary with usage and is recovered most efficiently on a flat-rate basis from purchasers of local telephone service. Southwestern Bell estimates this interstate "switching-port charge" at $0.25 per line per month, based on Southwestern Bell's embedded switching network.

The recommended switching-port charge and SLC increase would go a long way toward reducing the interstate portion of the indiscriminate subsidy to basic local service. Recovering the entire interstate portion of the cost of customer access through federal end-user charges makes possible dollar-for-dollar reductions in LEC interstate access charges billed to IXCs. Since LEC access charges account for nearly half of the cost incurred by IXCs to provide long-distance service, this roll-back would allow significant cuts in long-distance prices. Such reductions, should they occur, would offer consumer gains and actually enhance telephone subscribership.[3]

The FCC started fixing access charges in the mid-1980s but stopped in 1989, when Congress feared a residential exodus.

How much would consumers gain by paying directly for local network access? In economics, this gain is known as consumer surplus, or the difference between the amount consumers would be

The Role of Targeted Assistance

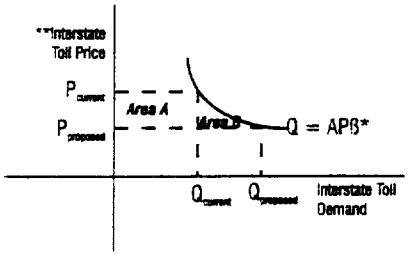
For prices to remain efficient, they must cover marginal cost. To ease the transition to competition, it makes sense to address concern over affordability by targeting financial assistance to those subscribers least able to pay market prices.

Enhancing programs such as *Lifeline* and *LinkUp* can supplement the unravelling of indiscriminate subsidies by waiving the subscriber line charge (SLC) or offering local rate discounts to lower-income customers. Redirecting the gains from efficient pricing could also increase subscriber penetration rates.

For example, eligibility for Lifeline could be expanded to include all households falling below the federal poverty level—a $15,150 annual income for a family of four. From the eligible household universe, I assume that 70 percent of non-*Lifeline* households currently with telephone service would switch to lower-priced lifeline service, and 50 percent of eligible households currently without telephone service would subscribe. Given these assumptions, I estimate *Lifeline* enhancement would cost $50 million per month.

[3]Hausman *et al.*, p. 179

willing to pay overall for a given quantity of service and the amount that consumers actually do pay. The objective is to isolate the net gain in consumer surplus resulting exclusively from lower interstate long-distance prices brought about by lower interstate access prices (assumed to be fully passed through to consumers). The figure below displays the consumer surplus and shows clearly that consumers in the aggregate can benefit from lower access and long-distance rates.



Consumer Surplus = Area A+ Area B- Increase in End User Charges

*Assumes interstate toll price elasticity of demand (β) equals -.72. (A 10-percent price cut boosts toll usage by 7.2 percent.) This assumption falls within the estimated range of (-.50 to -1.25) toll price elasticities.[4]

**Assumes that access-charge reductions are fully and uniformly passed through to basic residential interstate long-distance price (estimated at 16 cents per minute). To the extent that IXCs do not reduce their basic residential rate, consumer surplus would shrink.

Area A represents the bill savings enjoyed by consumers who purchase an unchanged amount of interstate toll at a lower price per unit. But because these consumers will find interstate long-distance service a better value at the lower unit price, they will buy more long-distance minutes, reflecting a response in demand (β). *Area B* mathematically captures the net gain in value a consumer derives from the additional toll purchase, despite the increase to his or her aggregate toll bill. The total gain in consumer surplus equals the net bill reduction from a static amount of interstate toll purchased at the lower unit price (*Area A*) plus the increased value from greater toll use prompted exclusively by the reduced unit price (*Area B*). From the estimated gain in consumer surplus, I subtract the price increase consumers would experience through the higher SLC and switching-port charges. The difference represents the net gain in consumer surplus flowing from the interaction of lower interstate toll prices made possible by the switching-port charge and increased SLC.

The Larger Implications

This example suggests a total nationwide net gain in consumer surplus of about $625 million each month—over $7.5 billion annually. The net monthly gain in consumer surplus comes to about $4.20 for the average residence and business subscriber, after subtracting the $2.60 monthly end-user increase (a $2.35 SLC increase and $0.25 switching-port charge).

Universal service is best preserved through price rebalancing that focuses assistance on lower-income subscribers.

About $570 million of this surplus, $3.80 per subscriber, is enjoyed as toll-bill savings (*Area A*); the remainder reflects increased value from the purchase of additional, lower-priced interstate toll (*Area B*).

Overall consumer gains remain impressive when interstate price rebalancing is supplemented by expanded assistance *(see sidebar on page 27)* for lower-income subscribers: about $580 million each month, or nearly $7 billion annually, with net surplus gain per subscriber averaging around $3.90 per month. The average residential subscriber would realize a net toll-bill reduction of about $3.50 per month (*Area A*).

Admittedly, not every customer benefits from the move toward pricing efficiency. Consumers would benefit only if they gain more from a lower interstate long-distance rate than they pay for the switching-port charge and the higher SLC. The more interstate long distance a customer uses, the greater the consumer surplus. Though the data used in this study are too aggregated to permit distributional analysis, telephone spending patterns indicate that net "gainers" represent a healthy portion of all customers.

A previous study that examined actual customer bill data indicated that about 45 percent of Southwestern Bell's residential customers experienced a net bill reduction under the current SLC program; most of those who did not saw only minor increases.[5] Interstate long-distance usage increased substantially in response to significant long-distance price cuts—from 11 to 13 percent annually—when the FCC phased-in the SLC during the mid-1980s. With even wider use of long-distance services expected through the end of this decade, a greater portion of customers should derive increased value from more efficient pricing. Moreover, telecommunications demand studies emphasize that properly structured lower-priced alternatives—*e.g.*, lifeline service, local measured service—can mitigate the threat of higher local-service rates.[6]

[4]L. Taylor, *Telecommunications Demand in Theory and Practice*, Boston: Kluwer Academic Publishers, 1994.
[5]Larson, Makarewicz and Monson, "The Effect of Subscriber Line Charges on Residential Telephone Bills," 13 *Telecommunications Policy* 337 (1989).
[6]L. Taylor, *supra*, p. 107.

▲ ▲ ▲

Debate persists over whether LEC access reductions are completely passed through to lower interstate long-distance rates. But it remains uncontested that access-subsidy reductions not passed through to lower long-distance prices diminish consumer welfare. There is no societal advantage to access-subsidy reductions that simply amount to a wealth transfer from local telephone customers to IXCs. If market forces in the long-distance industry do not dictate that significant input-cost reductions result in output price reductions, then measures to impose the discipline of competition must be taken: 1) Preferably, allow more formidable competitors (*e.g.*, the regional Bell operating companies) to compete freely in interLATA long distance; or 2) mandate flow through to lower the basic residential long-distance rate via regulation.

If the current system of indiscriminate subsidies is left in place, economically efficient competition in telecommunications will never fully develop. ▼

Thomas Makarewicz is area manager of access planning for Southwestern Bell Telephone in St. Louis, MO. *The author gratefully acknowledges the collaboration and expertise of Terry Schroepfer in developing the results used in this article, as well as the constructive comments provided by Darryl Howard, Steve Parsons, and Margret Starkey. This article does not necessarily represent the opinions, policies, or business plans of SBC Communications Inc. or any of its subsidiaries.*